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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,706	08/17/2001	Charles Calvin Byers	Byers 43-5	5768

7590 09/30/2004

Docket Administrator (Room 3J-219)
Lucent Technologies Inc.
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EXAMINER	
BELLO, AGUSTIN	

ART UNIT	PAPER NUMBER
2633	

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/932,706	BYERS ET AL.	
	Examiner	Art Unit	
	Agustin Bello	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-18 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-18 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 4-6.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3-8, 10-13, and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Willebrand (U.S. Patent No. 6,239,888).

Regarding claims 1 and 8, Willebrand teaches generating a collimated beamline (reference numeral 24 in Figure 2) at one of said plurality of processing units (reference numeral 30 in Figure 2) for a destination processing unit comprising another one of said plurality of processing units; modulating a message on said collimated beamline (column 6 lines 38-42); transmitting said beam through a volume of said free space beamline (reference numeral 32 in Figure 2); receiving said beam at said hub;(reference numeral 22b in Figure 1) and demodulating said beam to recover said message (column 6 lines 42-45).

Regarding claims 3 and 10, Willebrand teaches arranging a plurality of transmit probes and a plurality of receive probes in an array (Figure 12).

Regarding claims 4 and 11, Willebrand teaches routing messages at a hub (reference numeral 22b in Figure 1 and Figure 6).

Regarding claim 5, Willebrand teaches modulating a message on said collimated beamline at said hub (column 6 lines 38-42); transmitting said beam through a reserved volume

of said free space beamline (reference numeral 32 in Figure 2); receiving said beam at said selected processing unit ;(reference numeral 22b in Figure 1) and demodulating said beam to recover said message (column 6 lines 42-45).

Regarding claims 6 and 12, Willebrand teaches each of the processing units includes a movable probe ring (reference numeral 44 in Figure 2), said method further including the step of arranging said transmit and receive probes of a processing unit on said movable probe ring (as seen in Figure 12).

Regarding claims 7 and 13, Willebrand teaches an actuator (reference numeral 56 in Figure 10) connected to said movable probe ring, said method further including the step of aligning said probes by said actuator to provide control over beam alignment (via controller reference numeral 100 in Figure 10).

Regarding claim 15, Willebrand teaches that the actuator comprises servomotors (column 15 lines 66).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2, 9, 14, 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willebrand.

Regarding claims 2 and 9, Willebrand differs from the claimed invention in that Willebrand fails to specifically teach that the volumes are arranged in a helix around the

circumference of the beam line. However, Willebrand does teach that the volumes are arranged around the circumference of the beam line (see Figure 12). One skilled in the art would clearly have recognized that it would have been possible to place the volumes of Willebrand in any manner including helically around the circumference of the beam line. One skilled in the art would have been motivated to do so in order to improve reception quality or to produce delays between received signals. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to arrange the volumes of Willebrand in a helix around the circumference of the beam line.

Regarding claim 14, 16, and 17, Willebrand differs from the claimed invention in that Willebrand fails to specifically teach piezoelectric actuators, manual adjustors, or stepper motors with screws. However, each of these elements are well known in the art and readily available. One skilled in the art would have been motivated to employ any of these alternatives in order to meet specifications or reduce the cost of the apparatus. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use either piezoelectric actuators, manual adjustors, or stepper motors with screws in the design of Willebrand.

Regarding claim 18, Willebrand differs from the claimed invention in that Willebrand fails to specifically teach the use of quadrant photodetectors. However, quadrant photodetectors are well known in the art and readily available. One skilled in the art would have been motivated to use a quadrant photodetector in order to observe the position of an incoming light beam. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use a quadrant photodetector in the device of Willebrand in order to determine the position of an incoming light beam.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Agustin Bello
Examiner
Art Unit 2633

AB

JASON CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600